What is Claimed Is:

1. Method for generating a panorama image from a plurality of original images that include an image in common, the method comprising the steps of:

(a) generating from each of the original images a low-resolution image having lower resolution than the original image;

(b) identifying a condition of overlap for the low-resolution images which is to be identified based on areas for the image in common, in order to determine a feasible area in which the panorama image may be generated;

(c) determining within the feasible area an area extending beyond an area of any one of the low-resolution images, as an image generation area for generating the panorama image; and

(d) generating from the plurality of original images a panorama image having an area corresponding to the image generation area.

2. Image generating method for generating a composite image from a plurality of original images, the method comprising:

determining a plurality of partial original images for inclusion in the composite image to be generated, and included in any of the plurality of original images; and

performing a predetermined process for generating the composite image on a predetermined processing area of the original image that includes the partial original image, without performing the process on portions outside the processing area, to generate the composite image based on the plurality of partial original images.

3. Image generating method according to Claim 2 wherein

the processing area includes:

an area included within the original image and within a range of predetermined distance from the perimeter of the partial image, and

the area of the partial original image.

4. Image generating method according to Claim 2 wherein the processing area is equivalent to the area of the partial original image.

5. Image generating method according to Claim 4 wherein the composite image has higher density of pixels making up the image than does the low-resolution image, and an area extending beyond an area of any one of the original images.

6. Image generating method according to Claim 4 wherein the predetermined process for generating the composite image calculates pixel tone values, and

the step of generating the composite image comprises the step of calculating the tone value of each pixel making up the composite image, based on the tone value of each pixel making up the plurality of partial original images, without calculating tone values of pixels not included in the composite image.

7. Image generating method according to Claim 4 wherein the plurality of original images mutually include portions recording a same given subject, and the step of determining partial original images comprises the steps of:

(a) performing resolution conversion for the plurality of original images, to generate a plurality of low-resolution images of resolution lower than the original images;

(b) based on portions in the low-resolution image recording the same given subject, determining from areas of the plurality of low-resolution

images a composite area equivalent to the sum of the areas of the low-resolution images;

(c) determining within the composite area an image generation area extending beyond an area of any one of the low-resolution images; and

(d) determining, as the partial original images, portions of the original images corresponding to low-resolution partial images which are portions of the low-resolution images and included in the image generation area.

8. Image generating method according to Claim 7 wherein

the partial original image, when subjected to conversion of the resolution, is to generate an image equivalent to one of the low-resolution partial images, and

the step (d) comprises the step of determining the partial original image based on relationship between the low resolution partial image and the low resolution image, on and the plurality of original images.

9. Image generating method according to Claim 7 wherein the low-resolution image has a pixel pitch that is 30% -80% of a pixel pitch of the original image.

10. Image generating method according to Claim 7 wherein

the step (b) comprises the step of

(b1) based on the portions recording the same given subject, calculating relative positions of the plurality of low-resolution images, and

the step (c) comprises the steps of:

(c1) displaying as the composite area on a display unit the plurality of low-resolution images according to the relative positions thereof;

(c2) provisionally establishing the image generation area;

(c3) displaying on the display unit the provisionally established

image generation area, shown superimposed on the plurality of low-resolution images;

(c4) resetting the image generation area; and

(c5) determining the reset image generation area as the image generation area.

11. Image generating method according to Claim 10 wherein the step (b1) comprises the steps of:

(b2) receiving user instruction in regard to general relative position of the plurality of low-resolution images; and

(b3) based on relative position instructed by the user, calculating relative position of the plurality of low-resolution images so that deviation among the portions thereof recording the same given subject is within a predetermined range.

12. Image generating method according to Claim 11 wherein

the step (b2) comprises the step of displaying on a display unit at least two of the low-resolution images, and

the instruction regarding general relative position of the plurality of low-resolution images is accomplished at least in part by the user moving one of the two low-resolution images displayed on the display unit, onto the other low-resolution image so that they partially overlap.

13. Image generating method according to Claim 11 wherein the step (b2) comprises

the step of receiving, by way of instruction in regard to the relative position of the plurality of low-resolution images, instruction relating to sequential order of the plurality of low-resolution images in a predetermined direction, and

the step (b1) further comprises

(b4) a step of determining the relative position of the plurality of low-resolution images according to the sequential order.

14. Image generating device for generating a panorama image from a plurality of original images that include an image in common, comprising:

a low-resolution image generating unit configured to generate from each of the original images a low-resolution image having lower resolution than the original image;

a feasible area determining unit configured to identify a condition overlap for the low-resolution images which is to be identified based on areas for the image in common, in order to determine a feasible area in which the panorama image may be generated;

a generation area determining unit configured to determine within the feasible area an area extending beyond an area of any one of the low-resolution images, as an image generation area for generating the panorama image; and

an extended image generating unit configured to generate from the plurality of original images a panorama image having an area corresponding to the image generation area.

15. Image generating device for generating a composite image from a plurality of original images, wherein the device

determines a plurality of partial original images for inclusion in the composite image to be generated, and included in any of the plurality of original images; and

performs a predetermined process for generating the composite image on a predetermined processing area of the original image that includes the partial original image, without performing the process on portions outside the processing area, to generate the composite image based on the plurality of partial original images.

16. Image generating device according to Claim 15 wherein

the processing area includes:

an area included within the original image and within a range of predetermined distance from the perimeter of the partial image, and

the area of the partial original image.

17. Image generating device according to Claim 15 wherein

the processing area is equivalent to the area of the partial original image.

18. Image generating device according to Claim 17 wherein

the composite image has higher density of pixels making up the image than does the low-resolution image, and an area extending beyond an area of any one of the original images.

19. Image generating device according to Claim 17 wherein the predetermined process for generating the composite image calculates pixel tone values, and

when generating the composite image,

the tone value of each pixel making up the composite image is calculated based on the tone value of each pixel making up the plurality of partial original images,

without calculating tone values of pixels not included in the composite image.

20. Image generating device according to Claim 17 wherein

the plurality of original images mutually include portions recording a same given subject, and wherein the device comprises:

a low-resolution image generating unit configured to perform resolution conversion for the plurality of original images, to generate a plurality of low-resolution images of resolution lower than the original images;

a composite area determining unit configured to determine, based on portions in the low-resolution image recording the same given subject, a composite area equivalent to the sum of areas of the low-resolution images, from the plurality of low-resolution images;

a generation area determining unit configured to determine within the composite area an image generation area extending beyond an area of any one of the low-resolution images; and

a partial image generating unit configured to determine, as the partial original images, portions of the original images corresponding to low-resolution partial images which are portions of the low-resolution images and included in the image generation area.

21. Image generating device according to Claim 20 wherein

the partial original image, when subjected to conversion of the resolution, is to generate an image equivalent to one of the low-resolution partial images, and

the partial image generating unit determines the partial original image based on relationship between the low resolution partial image and the low resolution image, and on the plurality of original images.

22. Image generating device according to Claim 20 wherein

the low-resolution image has a pixel pitch that is 30% -80% of a pixel pitch of the original image.

23. Image generating device according to Claim 20 further comprising a display unit able to display images, wherein

the composite area determining unit is able to calculate, based on the portions recording the same given subject, the relative positions of the plurality of low-resolution images; and

the generation area determining unit

is able to display as the composite area on a display unit, the plurality of low-resolution images according to the relative positions thereof;

is able to receive instructions to provisionally establish the image generation area;

is able to display on the display unit the provisionally established image generation area, shown superimposed on the plurality of low-resolution images;

is able to receive instructions to reset the image generation area; and

determines the reset image generation area as the image generation area.

24. Image generating device according to Claim 23 wherein

the composite area determining unit

receives user instruction in regard to general relative position of the plurality of low-resolution images; and

based on relative position instructed by the user, calculates relative position of the plurality of low-resolution images so that deviation among the portions thereof recording the same given subject is within a predetermined range.

25. Image generating device according to Claim 24 further comprising a display unit able to display images, wherein

the composite area determining unit displays on the display unit at least two of the low-resolution images, and

the instruction regarding general relative position of the plurality of

low-resolution images is accomplished at least in part by the user moving one of the two low-resolution images displayed on the display unit, onto the other low-resolution image so that they partially overlap.

26. Image generating device according to Claim 24 wherein

the composite area determining unit

receives, by way of instruction in regard to the relative position of the plurality of low-resolution images, instruction relating to sequential order of the plurality of low-resolution images in a predetermined direction, and

determines the relative position of the plurality of low-resolution images according to the sequential order.

27. Computer program product for generating a panorama image from a plurality of original images that include an image in common, the computer program product comprising:

a computer-readable medium; and

a computer program recorded onto the computer-readable medium;

wherein the computer program comprises:

a portion for generating from each of the original images a low-resolution image having lower resolution than the original image;

a portion for identifying a condition of overlap for the low-resolution images which is to be identified based on areas for the image in common, in order to determine a feasible area in which the panorama image may be generated;

a portion for determining within the feasible area an area extending beyond an area of any one of the low-resolution images, as an image generation area for generating the panorama image; and

a portion for generating from the plurality of original images a panorama image having an area corresponding to the image generation

area.

28. Computer program product for generating a composite image from a plurality of original images, the computer program product comprising:

a computer-readable medium; and

a computer program recorded onto the computer-readable medium;

wherein the computer program comprises:

a first portion for determining a plurality of partial original images for inclusion in the composite image to be generated, and included in any of the plurality of original images; and

a second portion for performing a predetermined process for generating the composite image on a predetermined processing area of the original image that includes the partial original image, without performing the process on portions outside the processing area, to generate the composite image based on the plurality of partial original images.

29. Computer program product according to Claim 28 wherein

the processing area includes:

an area included within the original image and within a range of predetermined distance from the perimeter of the partial image, and

the area of the partial original image.

30. Computer program product according to Claim 28 wherein

the processing area is equivalent to the area of the partial original image.